



# Best Management Practices for Construction and Development Projects Neosho Madtom *Noturus placidus*

**Common name** • Neosho Madtom  
**Scientific name** • *Noturus placidus*  
**Federal status** • Threatened  
**State status** • Endangered

## Purpose and Use

The information in this document is to be used to help avoid and minimize species impacts due to construction practices. It is not intended as a guide to manage habitat for a given species. Please contact the Department of Conservation if habitat management information is needed. Because every project and location differ, following the recommendations in this document does not guarantee impacts will not occur to the species and additional information may be required in certain instances. Following the recommendations in this document does not complete Endangered Species Act consultation that may be necessary for species listed under the federal Endangered Species Act; please contact the U.S. Fish and Wildlife Service for more information.

## Ecology

Neosho Madtoms have localized distributions in medium- to large-sized streams in Missouri, Kansas and Oklahoma. In southwestern Missouri, Neosho Madtoms are found in the Spring River of Jasper County, a large stream with low to moderate gradients, permanent flow, and abundant gravel and cobble. The species' range has diminished outside Missouri. Historically, the species may have occurred in other Missouri streams in the region but there are no collection records to verify this. Neosho Madtoms live on the stream bottom under rocks, moving through spaces in the gravel and cobble in riffles or runs. The fish is most active at night, foraging primarily within three hours after sunset on aquatic insects, including larvae of caddisflies, mayflies, dipterans, and midges. Spawning typically takes place in June and July. Neosho Madtoms make cavity nests in protected hiding places where the eggs are laid and then guarded by one or both parents. Neosho Madtoms are one of the smallest Missouri catfishes, with adults commonly 1.8-3.0 inches in length.

## Reasons for Decline

Although there is no evidence that Neosho Madtoms were ever more widespread in Missouri than they are currently, the species is vulnerable due to its restricted distribution. Several factors threaten the long-term survival of the Neosho Madtom and are associated with declines in Kansas and Oklahoma including:

deterioration of water quality and increased sedimentation associated with lead-zinc mining, agricultural runoff, and urbanization; construction of impoundments; improper gravel removal; and dewatering for municipal and agricultural purposes.

## Specific Recommendations

To protect current and potential habitat for Neosho Madtoms, project activities should minimize impact to streams and riparian corridors:

- No work should occur below the high bank of the stream between April 15 and July 15 to avoid disrupting spawning activity. Gravel removal should adhere to permitted methods.
- Low water road crossings on streams should be designed to facilitate aquatic organism passage and sediment transport. Dams and impoundment structures should not be constructed in streams where this species occurs.
- Erosion and sediment controls should be implemented, monitored, and maintained on agricultural and urban lands in general and for the duration of temporary projects.
- Bank stabilization materials should consist only of rock, clean broken concrete or similar materials free of pollutants, silt, and extraneous debris including exposed rebar.
- Changes to stream flow regimes should be minimized whenever possible. Creation of impoundments should be avoided and water withdrawals or other flow alterations should be minimized, especially during the spawning period and during drought.

## General Recommendations

Refer to *Best Management Practices for Construction and Development Projects Affecting Missouri Rivers and Streams*.

If your project involves the use of Federal Highway Administration transportation funds, these recommendations may not fulfill all contract requirements. Please contact the Missouri Department of Transportation at 573-526-4778 or the [Missouri Department of Transportation Environmental Studies webpage](#) for additional information on recommendations.

## Information Contacts

For further information regarding regulations for development in rivers and streams, contact:

For species information:

[Missouri Department of Conservation](#)

Science Branch  
P.O. Box 180  
Jefferson City, MO 65102-0180  
Telephone: 573-751-4115

For species information and Endangered Species Act  
Coordination:

[U.S. Fish and Wildlife Service](#)

Ecological Services  
101 Park Deville Drive, Suite A  
Columbia, MO 65203-0007  
Telephone: 573-234-2132

For Clean Water Act Coordination:

[Missouri Department of Natural Resources](#)

Water Protection Program  
P.O. Box 176  
Jefferson City, MO 65102-0176  
Telephone: 573-751-1300, 800-361-4827

[U.S. Army Corps of Engineers](#)

Regulatory Branch  
700 Federal Building  
Kansas City, MO 64106-2896  
Telephone: 816-389-3990

[U.S. Environmental Protection Agency](#)

EPA Region 7 Water Division  
11201 Renner Boulevard  
Lenexa, KS 66219  
Telephone: 913-551-7977

## **Disclaimer**

These Best Management Practices were prepared by the Missouri Department of Conservation with assistance from state and federal agencies, contractors, and others to provide guidance to those who wish to voluntarily act to protect wildlife and habitat. Compliance with these Best Management Practices is not required by the Missouri wildlife and forestry law nor by any regulation of the Missouri Conservation Commission. Federal laws such as the Clean Water Act and the Endangered Species Act, and state or Local laws need to be considered for construction and development projects and require permits and/or consultation with the appropriate agency. Following the recommendations provided in this document will help reduce and avoid project impacts to the species, but impacts may still occur. Please contact the appropriate agency for further coordination and to complete compliance requirements.